

**WHAT IS CLAIMED IS:**

1. A method for detecting defects in an optical fiber, the method comprising:  
obtaining an image of the optical fiber;  
separating a portion of the image for processing;  
determining a blob threshold to isolate a blob in the portion of the image;  
adjusting characteristics of the portion of the image to enhance detection of the blob;  
detecting the blob in the image;  
comparing a characteristic of the blob to blob criteria; and,  
failing the optical fiber if the blob criteria are not met.
2. The method of claim 1 wherein the image includes an object and a background, the portion of the image corresponding to the object.
3. The method of claim 2 wherein the object comprises core and cladding of the optical fiber.
4. The method of claim 1 wherein the image includes an object and a background, the portion of the image corresponding to the background.
5. The method of claim 4 wherein the background comprises supporting structure for the optical fiber.
6. The method of claim 1 wherein said determining the blob threshold includes determining a mean intensity of the portion of the image, the blob threshold being based on the mean intensity.

7. The method of claim 6 wherein the blob threshold is determined as

$$T_B = \alpha \times I + \beta$$

where  $T_B$  is the blob threshold,  $I$  is the mean intensity of the portion of the image and  $\alpha$  and  $\beta$  are scaling constants.

8. The method of claim 1 wherein said adjusting characteristics includes adjusting brightness of the portion of the image.

9. The method of claim 1 wherein said adjusting characteristics includes adjusting contrast of the portion of the image.

10. The method of claim 1 wherein said adjusting characteristics includes adjusting brightness of the portion of the image to a low value and adjusting contrast of the portion of the image to a medium value.

11. The method of claim 1 wherein the characteristic of the blob is blob intensity, the blob criteria including blob intensity.

12. The method of claim 1 further comprising establishing inspection zones in the image, the blob criteria varying for each inspection zone.

13. A storage medium encoded with machine-readable computer program code for detecting defects in an optical fiber, the storage medium including instructions for causing a computer to implement a method comprising:

obtaining an image of the optical fiber;

separating a portion of the image for processing;

determining a blob threshold to isolate a blob in the portion of the image;

adjusting characteristics of the portion of the image to enhance detection of the blob;  
detecting the blob in the image;  
comparing a characteristic of the blob to blob criteria; and,  
failing the optical fiber if the blob criteria are not met.

14. The storage medium of claim 13 wherein the image includes an object and a background, the portion of the image corresponding to the object.

15. The storage medium of claim 14 wherein the object comprises core and cladding of the optical fiber.

16. The storage medium of claim 13 wherein the image includes an object and a background, the portion of the image corresponding to the background.

17. The storage medium of claim 16 wherein the background comprises supporting structure for the optical fiber.

18. The storage medium of claim 13 wherein said determining the blob threshold includes determining a mean intensity of the portion of the image, the blob threshold being based on the mean intensity.

19. The storage medium of claim 18 wherein the blob threshold is determined as

$$T_B = \alpha \times I + \beta$$

where  $T_B$  is the blob threshold,  $I$  is the mean intensity of the portion of the image and  $\alpha$  and  $\beta$  are scaling constants.

20. The storage medium of claim 13 wherein said adjusting characteristics includes adjusting brightness of the portion of the image.

21. The storage medium of claim 13 wherein said adjusting characteristics includes adjusting contrast of the portion of the image.

22. The storage medium of claim 13 wherein said adjusting characteristics includes adjusting brightness of the portion of the image to a low value and adjusting contrast of the portion of the image to a medium value.

23. The storage medium of claim 13 wherein the characteristic of the blob is blob intensity, the blob criteria including blob intensity.

24. The storage medium of claim 13 further comprising establishing inspection zones in the image, the blob criteria varying for each inspection zone.